NWX-US DEPT OF COMMERCE

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1:00 pm CT

Coordinator: Welcome and thank you for standing by. At this time, all participants will be on a listen-only mode for the duration of today's conference. This call is being recorded. If you have any objections, please disconnect at this time. I will now turn the call over to Wendy Peebles. Thankyou . You may begin.

Wendy Peebles: Thank you operator. Good afternoon everyone. My name is Wendy Peebles, Lead Outreach Coordinator, Census Bureau Economic Management Division. The Census Team is happy to host the second of a five part Webinar series in celebrating Manufacturing Month this year. Thank you all for joining us today.

We have an informative Webinar planned along with our trade promotion partners to include US Commercial Service, EXIM Bank, MEP National Network, Small Business Administration and the Census Bureau. You will hear from several of our - the partnership agencies today to bring you valuable information on manufacturers and federal agency resources to increase global business opportunities.

The Webinar is being recorded and the question and answer period will occur at the end of today's Webinar via the chat. Please submit questions to all

panelists. The presenters will address as many questions as possible during the Webinar. The contact information will be provided for further follow-up.

A few weeks following the Webinar the transcript, recording and presentation will be posted to the Census Academy site and that link will be provided in the chat or you may find it from where you registered from today's event. We ask that you please complete the evaluation at the end. That assists us in planning future events.

As a reminder, join us for the remaining Thursdays in October at 2:00 pm Eastern Standard Time and we will feature a topic in celebration of manufacturers around the country to help you grow your businesses to include financing, credit insurance, supply chain.

And the last Webinar will be presented in Spanish with Hispanic owned manufacturers sharing their success stories to close out the series. You can also obtain that information from where you registered from for today.

So let's see, let's take a look at our agenda. And once again having a little technical glitch here. Here we go. All right, we will have welcome remarks by our special guest, Bailey DeVries, Associate Administrator, Office of Investment and Innovation US Small Business Administration. We will have our Business Roundtable, moderated by Pam Plagens, Advanced Manufacturing Team Leader, US Commercial Service, US Department of Commerce.

And for our agency forum we will offer programs and services for early stage manufacturers. The agencies will cover how to gain access to additional markets, help you be more competitive in the marketplace, and provide you with some networking opportunities with various industries. And those

agencies will be SBA, MEP National Network, US Commercial Service. At the end, we will have our audience Q&A session.

So at this time I would like to introduce our special guest, Bailey DeVries. Bailey DeVries is SBA's Associate Administrator.

((Crosstalk))

Bailey DeVries: (Unintelligible).

Wendy Peebles: Yes let me just read a brief bio and then I'm going to turn it over to you for the opening remarks, my apologies. Bailey DeVries is SBA's Associate Administrator for the Office of Investment and Innovation. Previously, Miss DeVries served as venture partner at Trail Mix Ventures where she dedicated her time to financially inclusive seed stage investments and has served in executive roles with Greensprings Associates, T. Rowe Price Associates and Sotera Defense Solutions.

She has over 17 years of combined experience in business strategy, asset management, government contracting and investments. She attended Wake Forest University, Northwestern University and Georgetown University and is an Illinois native. Welcome Associate Administrator DeVries and thank you for joining us today. You may want to come off mute.

Bailey DeVries: Hi Wendy. It's a pleasure to be here with you today. I wish we could be in person, but this is just wonderful that we're able to kick off this wonderful event. And thank you so much for joining the Webinar on early stage manufacturing.

I am just delighted to be here speaking with this wonderful audience. Your success is our goal and Manufacturing Month is just a terrific opportunity to appreciate the work of businesses like yours and be sure that you know about the federal resources that are here to help you grow and thrive.

As we celebrate manufacturers please note that you are part of something so much bigger than your own business. And we are grateful to be part of the ecosystem that is supporting manufacturers in the US.

Your success is important to the health and the prosperity of the US economy as a whole. And I think that individuals across the country, across industries are very well aware of how critical manufacturing is. In light of the pandemic we have felt the importance and need for support for our manufacturing capabilities domestically. So you are the job creators. You are the makers of so much that will help us build back better as we continue to recover from the global pandemic.

As you move from the idea of, how do I put this, the phase of development and research on to commercialization and hopefully to global growth as an exporter, our office, the Office of Investment and Innovation along with the rest of the US Small Business Administration and other federal agencies you'll get to know about today, we stand here to help you so that you can play a valuable role in our nation's economy and global competitiveness.

So just in the last month I'll share with you that we have awarded 5.4 million to the Office of Investment and Innovation to 92 growth accelerators that are helping to scale high tech startups, many of which are focused on manufacturing.

Our office is also responsible for what we very fondly call America's Seed Fund But what is this? So you might be familiar with the Small Business Innovation, Research and Tech Transfer Program. These are the resources that are pulled together across 11 agencies of the federal government to be there to support the growth of initial ideas early on in the research and concept phase. So that way entrepreneurs have the capital and resources to help nurture these ideas as they progress all the way through to commercialization.

So the Small Business Innovation Research Program, the SBIR program and the Small Business Technology Transfer Program, as I just mentioned, you know, we fondly call them America's Seed Fund. They provide over $3.5 billion in non-dilutive capital every year to our nation's most promising entrepreneurs.

These innovative entrepreneurs and their growing businesses can all be found on sbir.gov. I have to give my plug for that. So if you haven't checked it out, I certainly would encourage visiting to learn more about the types of awards that are provided and the companies that have applied for these awards and successfully moved through.

You can also find resources here on local support organizations that can roll up their sleeves and help you grow your innovative small business ideas and concepts to potentially move forward with the coming SBIR, STTR awardee.

Beyond that, our team at the Office of Investment and Innovation is also hard at work building networks to support entrepreneurs in helping to cultivate relationships that support organizations to lessen the barriers to commercialization. So that way, more entrepreneurs across every corner of the country have opportunity to access the benefits of the programs that we offer to help cultivate innovative ideas that can grow and accelerate our progress in

manufacturing. So we'd encourage you to check out the broader Web sites for the Office of Investment and Innovation on the SBA Web site to learn more about our programs and reach out at any time.

But beyond that, I'd love to share that in my position that I am so honored to have within the Biden administration, I've seen that despite the pandemic and the challenges that businesses have faced, there are global trends that present opportunities to accelerate and support the growth of businesses like yours, technologies like 3-D printing, e-commerce, blockchain artificial intelligence, and 5G are enabling small businesses to make products and offer services and sell to new customers in so many different ways.

There are digital innovations that are reducing the costs associated with exporting and streamlining operations. And global online purchases are increasing to the norm, with 2.14 billion customers buying online and three of four US small businesses having increased their use of digital tools.

The US Small Business Administration is just one of the agencies that you'll hear from today. But please know that we are here to help. And in fiscal year 2020 alone, we partnered to help more than 70,000 small manufacturers gain more than $32 billion in federal contracts, financial assistance and counseling or support. This is roughly 1/3 of small manufacturers in the country.

We are here to help and we offer a great deal of support to help small businesses export as well. And you might ask why we do this? Well, because exporters enjoy twice the sales of non-exporters and hire three times more employees and stay in business - and stay in business ten years longer. We are here to help. We want to support job growth, economic opportunity and support the small business manufacturers located across every corner of the country. We hope you enjoy the Webinar and thank you so much.

Wendy Peebles: Great. Thank you for those remarks. You certainly have set the stage for today's Webinar and thanks for sharing the information and all the services that your agency provides.

At this time we are preparing for our roundtable discussion with our businesses. And I would like to turn it over to Pam Plagens to begin our discussion.

Pam Plagens: Thanks Wendy. I'm Pam Plagens. I'm the Advanced Manufacturing Team Leader for the US Commercial Service, the trade and investment promotion arm of the US Department of Commerce International Trade Administration. I'm really pleased to join you today as we celebrate Manufacturing Month 2021.

I'm excited to moderate this panel particularly of earlystage manufacturers and their success stories that you'll hear today. Manufacturing is the engine that drives our economy and a high priority for the federal agencies coordinating this celebration.

Today, we'll explore the idea phase, commercialization and global growth journey of early stage manufacturers hearing from two small business executives and serial entrepreneurs who have effectively tapped federal government resources to help identify export markets and international customers.

Before we jump into question however, and the discussion, I'd like to briefly introduce them and then we'll let them introduce themselves a little bit. But in the meantime, you can check out more information on the slide.

Our first speaker is Anthony Mulligan. He's the CEO of Hydronalix based in Green Valley, Arizona. Hydronalix is a small technology company specializing in extreme performance, small unmanned vehicles both for water and air. Founded in 2009, the company has grown to be internationally recognized as the world's leader in robotic water rescue systems and advanced small unmanned surface vehicles. As you'll see from the slides, they sell into 33 countries around the world -- pretty impressive.

Tony has served on the Defense Science Board, Manufacturing Task Force and the REV Arizona Board which is part of the Arizona Commerce Authority and funded by NIST Manufacturing Extension Partnership. He's also participated in the ExporTech Program and received an Export Achievement Certificate in 2019.

If you want to learn more about Tony's exporting expertise later, please tune into a recent episode of the Commercial Service’s Export Nation podcast where he and TMA BlueTech founder Michael Jones, discuss successful exporting practices.

All right, next Samantha Snabes is the founder and catalyst for re:3D. She's a Reservist in the Air National Guard. With re:3D she facilitates a connection between others printing at the human scale and/or used recycle materials to access locally driven manufacturing in 50 countries.

As a bootstrapped open-source social enterprise led by women who manufacture in the US, re:3D has received many awards along the way. Samantha currently volunteers at the immediate past global chair of IEEE's entrepreneurship. Previously, she served as a social entrepreneur in residence for the NASA headquarters and deputy strategist supporting NASA JSC,

Johnson Space Center down here in Houston, Life Sciences Directorate after selling startup for DARPA funded co-patented tissue culture device.

Well thank you for joining us today, and I am awed by both of your accomplishments, so I'm really excited to hear a bit more. I have a few questions for you, but before we jump in, as I said, I'd like to ask you to introduce yourselves and your company. And why don't we get started with Tony and then we'll go to Samantha.

Anthony Mulligan: Hi. Thanks for having me. I'm Tony Mulligan. I'm the CEO of Hydronalix. And the - were about 12 years old, but we're about nine years as a functioning manufacturing company.

This is my fourth manufacturing company that I founded or helped start. My first one was while I was in college. And by the time of my last year in mechanical engineering, we were manufacturing medical research devices for people with developmental disabilities.

The - my manufacturing experience is also varied to computer components which were heavily exported and also a company that manufactured pet products that used to be purchased in PetSmart, Kmart and major department stores around the country and around the world.

And now I build robotic boats, which is a similar spin off to I used to build robotic airplanes. And so the plan here was take everything that's you used in a UAV, all the hundreds of millions of dollars or billions of dollars the government spent and use that technology for small boats. And our first fun invention basically started in spring of 2010. And that's the EMILY rescue line.

Pam Plagens: Well I was pretty impressed by watching the video of EMILY, so hopefully others will have a chance to take a look at that. Samantha, why don't you tell us a little bit more about yourself and re:3D?

Samantha Snabes: Sure. Thank you guys so much for having me today and apologizes for the dog barking in the background, I had to take my dog to A&M small business this morning. This is the life of an entrepreneur.

But for context, we are a spinoff of Engineers Without Borders, NASA Johnson Space Center. And the time that I spent there meeting my co-founder and getting to know some of our teammates after selling my first company. Basically we're about ten years old.

We originally were a club with Engineers Without Borders and within NASA. And we had this vision after traveling to Rwanda, Nicaragua and Mexico to make a large, affordable 3-D printer, so the size of a toilet and bigger to make functional objects that could someday be powered by waste.

So we started sharing this online in blogs and worked our way into some contests and got some money from the government of Chile to quit our jobs at NASA and trying to make it happen.

So this is Gigabot which we launched live at the startup Chile booth at South by Southwest in 2013, and it was funded in one day, actually 27 hours, which instantly put us into 23 countries. And what we learned is people around the world are problem solvers.

So we started bootstrapping our company. It is an open source design, and we give one away for every one hundred we deliver to someone trying to make a

difference in their community. But along the way we realized that we wanted to go a step further and power the printers that print from garbage.

So by using resources from U.S. Commerce, SBA and particularly the SBIR Program and the National Science Foundation, we were able to make that happen. It took about $2-1/2 million thanks to America Seed Fund. But this is Gigabot X. It is being sold in beta. It's already been delivered across three continents and people are continuing to request bigger and bigger versions of it as we grind up plastic waste and use pellets to print directly from trash.

Pam Plagens: Wow thank you Samantha. You know, Samantha, I remember when I first met your company, I met you before this, but I saw your company at HOUSTEX. This is a trade show that was taking place this week in Houston. So kind of feel like it's full circle.

Well I'm going to go to the next question. And thank you for being a trooper and multitasking for us today. I'm going to - I'll let Tony field the first round of this and then we'll go to you, Samantha. So talk a little - Tony, talk a little bit about the idea stage for developing your technology and then we'll go to Samantha with the same question.

Anthony Mulligan: So we - our ideal for making a rescue boat came while we were building simple camera puts to look in animals in the water. And during a storm we realized that if we put a little afloat like a lifejacket, we could get to anybody in the ocean no matter how bad the storm was. And so that was sort of the gelling of the idea there. There were two of us, my partner Bob Lautrup and I.

And so what we did on this concept very quickly was we acted very fast on actually building a prototype of the idea. So I would say within ten days we had a prototype of this idea running on the ocean. And we're able to

coordinate that with the lifeguards in Los Angeles County who are always interested in new things.

And the jumping on it right away there's a bunch of things, a bunch of different ideas happen and developed quickly. But a lot of times your first reaction to a concept are the best ones. And so before we got worried with all our perceived problems of why it wouldn't work, we just jumped right into it.

The other part of the idea that development that was important was, when we decided okay, if this was going to be something we're going to manufacture, how do we do this design based around a known supply chain that we already had in place from previous businesses and previous people we knew?

So the actual design was incorporated around the strengths of people that we had a strong relationship with, the selling entities, the machine shop entities, the composites fabrication entities. And we designed it to meet their strengths. This also gave us a chance to incorporate a loyal group of people that we didn't have to worry about, trade secrets going out and stuff because we had so much business for them in the past.

And we also decided that we wanted the design to be something that we could produce in rural America. And we picked a location in southern Arizona, which is very far from the ocean that it gives us a very stable manufacturing base and also helped us stay safe for a number of years without potential competitors finding out what we're doing.

Pam Plagens: I like that, that you're not very close to the ocean, but you've got an ocean solution.

Anthony Mulligan: Well we have lots of beaches here. We just don't have any water for them in Arizona.

Pam Plagens: We have plenty. Samantha, I'll hand the hand the baton to you.

Samantha Snabes: I think there's a country music song about lack of oceans in Arizona or something, but John - or Tony I appreciate what your doing.

Yes so for us, you know, we are community driven in at our core as I shared. So, you know, really, if we were being honest, it started off - re:3D started off as a series of conversations with our friends and moving. They're all in Rwanda and then in Nicaragua.

And we really, you know, didn't intend to start a company. We just wanted to make a printer that could enable 3-D printers to be in the communities we were in because we were finding that we were spending a lot of time and energy as NASA scientists, engineers and astronauts getting this equipment imported into countries and then dealing with how it would be maintained and training people when the people we met were really brilliant. Sometimes there was high unemployment and they really wanted to problem solve independently.

I come from a background in manufacturing in Detroit. My co-founder is a farmer from Iowa. So we started to look at bringing a printer in. And what we learned is that people when they want to make functional things, they're usually like bigger than that desktop system. You know, they might be a lower limb prosthetic or a birthing tool or a composting toilet.

So that's where we came up with requirements of making a toilet-sized 3-d printer. And then we learned through interviews -- and I was a social

entrepreneur in residence for NASA headquarters -- that the purchasing threshold was often $10,000 for people to do quick procurement. So those were requirements that formed what would be this open source printer.

We started applying challenges including (Home with Jack Daniels) where we a finalist in and got a following, and that allowed us to get more user feedback. But for us, kind of like Tony, you know, we prototyped really quickly once we got the initial funding from Startup Chile. In just eight weeks, we made the first version of Gigabot.

And we were just really blessed that Startup Chile had - or excuse me, South By Southwest had a Startup Chile booster that year. And we launched it with Kickstarter the day of. I encourage you to launch your product at live events to get feedback besides your mom and your family.

And then we learned that everyone that bought that printer was not our friends in Rwanda. They were Fortune 500s that were calling Kickstarter and saying, "How do I set up an account to do a crowdfunding campaign to buy this?" And those customers really guided us as we versioned up. So I think for us, you know, in the idea stage, it was just about getting it out there and getting feedback and then trying to be as responsive as we could to it.

Pam Plagens: Samantha it makes me think of how we find ways to pay for things like Kickstarter would be way outside of government procurement, but perhaps that's changed.

Well let's go to our third question. How about commercialization? It's one thing to have a great idea and product, it's quite another to effectively bring it to the market. And it sounds like we've already kind of peppered your

comments or the conversation with a little bit of this, but can you kind of expand a little bit on it and the commercialization phase?

And you know what? And Anthony, why don't you start and then the next round, Samantha, I'll let you go?

Anthony Mulligan: Okay, so the - going from having a prototype and a product that you think you can produce, there's also debugging it like what Samantha had to do. We for the first year and a half, we just used our own money to develop this system.

Then we're lucky and we had gotten in a DSPI [DPSI = Domestic Preparedness Support Initiative] program which was part of CCAT [Center for Commercialization of Advanced Technology at San Diego State University] from San Diego to build six pre-production prototypes that first responders could try. This coincided with some very serendipitous lucky press. For some set of reasons, Popular Science had picked us as an Invention of the Year. And we had some YouTube videos that somebody had made a blog on Baywatch and had stuck our EMILY robot into the Baywatch video and that went viral to millions of people. And we had nothing to do with that. That was just some jokester did that.

And our export, our first real orders, we had some trickle orders from places that had really bad situations with drowning. But that video carried over to Korea and to Indonesia. And within about a year of that video, we ended up doing over $2 million in sales to those countries.

And it was interesting, you know, their foreign accounts, they came, they paid cash sometimes with a bag. And but the - so we didn't require financing to do the production runs. And it got us, it ramped us up into a volume so that when

other people were interested, we were able to quickly pull a product off the shelf and ship it to them right away.

So there are sometimes some of our customers just mail us a check and they circle the page on the catalog and say, "This is what I want." And it was completely unplanned for us. So maybe 30% of our business comes that way. So we're always building inventory to ship for unexpected orders. Most orders though are you know, they take a while to evaluate.

We're still experimenting with what type of marketing or what kind of sales will increase our sales. And so we're still in sort of a shotgun approach, you know, with all different kinds of trials that we do, different places to advertise, different kinds of advertising, different types of social media. And that seems to be a big challenge for us right now, so we're just doing it as shotgun.

Pam Plagens: And Samantha, how about - it sounds like you guys have had such a fascinating, you know, trip as well.

Samantha Snabes: Yes, so and maybe … (unintelligible)...

((Crosstalk))

Pam Plagens: With commercialization.

Samantha Snabes: Yes, we were really lucky with that Kickstarter in 2013 but then, you know, then the real work began once the money hit the bank a couple months later. Admittedly, we ran a Ponzi scheme for the first few years because our advisors had encouraged us to go ahead and take pre-orders while we were...

Pam Plagens: Oh, no.

Samantha Snabes: ...fulfilling our bank log so that, you know, we had money coming in as we were standing up a factory. So we are really fortunate. Our friend astronaut, Ron Garan, had hooked us up with like a corner of a Lockheed Martin building to figure out how to do manufacturing and to have a place to ship and receive parts. We were also using (Matthew)'s garage where he had a CNC, the first one.

And then there was a government shutdown that year so a lot of our NASA peers and their kids came and helped us work on delivering orders. And I was in tech school at the Air Force. I'm an Air Force Reservist. At one point, some of my teammates in tech school were helping me build Gigabots from the shared apartments in the dorm.

But it was really, you know, it was a lot of work. We weren't expecting in a for profit venture with a factory. But we are operational now. I put a link in here for a virtual tour if you want to sign up for a workshop or to check it out.

And for us though in commercialization, you know, we were able to figure out how to deliver. But with our technology where the commercialization and conundrum is, is, you know, people are quick to point out, as you know, Pam an additive, the field is evolving every day and the materials and the testing and the qualification and the ongoing customer support you have to deliver.

And when you're working on discounted salaries in the beginning, it can be a real grind. And where we really around year three, four started to struggle is recognizing that we had invest resources into R&D.

But where is that going to come from and feature requests and our vision to print from trash. So that's when we started to get to know yourselves, U.S.

Commerce to leverage, you know, Webinars through SBA to really think about strategic dealing with manufacturing, getting in conversations around trade skills and standards.

I'm pleased to see that NIST is on this because you're a big piece of the puzzle, but that we heard about the seed fund and got rejected the first go round, as do many and learned from the feedback and since have had - I think we had seven SBIRs in three different agencies and have a couple funding.

But from that any Phase 2 we've done we've completed two has led to a product that's in commercialization. And we've always been really transparent about our research journey. So what we find is that many of our current customers or new customers will buy the product we're developing with the understanding it's better to give us feedback. So that open source lane community driven lead has really benefited us and our domain so that we could commercialize our product.

And then along the way, we've leveraged opportunities like the STEP grant and other resources to learn how to export successfully, as well as to take advantage of resources to get out and to do demos and markets that might be really expensive like Hannover Messe in Germany.

Pam Plagens: Oh, great plug for a trade show that I spent a lot of time working on over the last several years. I know the STEP grant is invaluable and partnering with the Commercial Service to get companies, some of these key trade shows around the world. You know, I'm going to expand a little bit on the - as we turn towards your global expansion for both of companies.

What resources did you tap along the way? It sounds like, you know, the STEP grants, working with the Commercial Service. Any great lessons learned, mistakes, stories that you can share?

Samantha Snabes: Sure. You know, at re:3D we fail every day. We borrow the mantra from our time at NASA, fail forward, fail fast, fail frequently, I think I just put that out of order. And, you know, every Friday, so I'll be teeing up tonight, our whole company shares a win, a kudos and a fail of the week. A couple of our teammates call them lessons learned but just to go show - just to even that a team of 22, we're all making at least 22 mistakes a week, or trying to figure out which one we want to confess to.

But in terms of failing, you know, it's tricky, especially right now. And supply chains are really it's tough. You know, there's unexpected challenges every day. Shipping rates are going up.

Some of our products have a longer lead time, like these larger custom versions of our system that might be 12 weeks to deliver. Well, shipping may have been prepaid and in that 12 weeks, you know, the shipping rates have doubled or tripled. And, you know, that comes out of our bottom line or the cost of certain components or ships getting stuck in the Suez Canal or now in LA.

In addition to that, you know, we are now just south of 60 countries. We're working on closing the 60th now so we can announce that milestone. But that means, you know, we've had to overcome a lot of export issues. And surprisingly, there's countries you can export to all the time that are your neighbors, like Canada and Mexico and every other one. You know, you find

yourself in a new predicament, you know, the customs broker or some sort of paperwork.

The classification codes for our industry are changing all the time whether it's robotics, plastic machining equipment or actually a 3-D printer which can complicate duties and how that sends. So we really, FDA and US Commerce have had a phenomenal amount of like Webinars and resources. We leverage them a lot. That was especially helpful during the PPP loan too and navigating all of that.

But for us, we really leaned on our relationship with US Commerce in addition to the STEP grant to figure out how to export.

And the best example I can give quickly is we may have and our first time we tried to export to Egypt, to New American University found out that our large freight crate with a printer in it had been confiscated by their version of the LES, so the law enforcement because it was declared a weapon of war which is a new one for me. So we work had to work with US Commerce to figure out how to get it undeclared as a weapon of war which involved directly calling the embassy.

And then finally, another resource that we haven't utilized yet but for us to scale going forward post-COVID or whatever it is, is there's resources through US Commerce to actually be hosted by an embassy. And they'll send out beautiful invites to invite strategics to come to the Embassy and for you to do a live demo. And I think that resource in and of itself isn't exploited enough. Maybe exploited's also the wrong word, but by small businesses and...

Pam Plagens: Explored.

Samantha Snabes: Manufacturers.

Pam Plagens: Yes, Single Company Promotions.

Samantha Snabes: Right, explored.

Pam Plagens: Single Company Promotions they're awesome. They are just an awesome tool for folks and the folks who have used them. And maybe Stephen can mention those a little later in his remarks. Tony, your global expansion...

Anthony Mulligan: So for us going global or exporting was a completely new world. It was just as difficult as just simply commercializing. So we're lucky we got through some stuff in the US Commerce Service here in Arizona that helped us with how do we get our non-ITAR status of things and getting through BIS, getting our EAR99 products listed that way so we could export. So that was the beginning. It took us quite a while to put together the catalogs.

Then we also took advantage of the STEP program and foreign support by the US Commerce Service with embassies. We found embassy application and interactions to be extremely helpful.

A lot of times foreign customers are nervous about if they send us money will we cheat them, will we do nothing? And so having the credibility of the US government say, "Hey, these are good guys," is a real big plus.

We're also fortunate our state has been very supportive of our export activities. There's so many different places where you can get help. And the trick is getting all of these places together and coordinating where each one has strengths.

For instance, our state has helped us with the cost of translating our brochures into multiple languages along with cultural issues. And as we travel to these places we take iconic pictures so we can put it into their catalogs and their brochures. So we're in France we're advertising folks in French locations instead of in, you know, Southern California.

The agencies like the US Commerce Service or and the Arizona Commerce Authority and the MEP, the Arizona MEP were really helpful in lessons learned that they heard from other people to get us those - that knowledge so we didn't have to reinvent the wheel so many times.

Delegation visits, I highly recommend. The - you go with a group of companies. We've done a number of those that we usually do several a year, and some of the costs are offset. But the real value is being with a credible source and getting a lot more of attention and also higher level entities tend to come to your meetings or your demonstrations or your requests.

Pam Plagens: Yes we we find that it helps companies put their best foot forward. You know, you know your business and we're here to just help you help yourself. You know what, I'm going to be - just in the interest of time, if you could just give us one piece of advice that you would recommend for a US exporter. And I'm not sure. if Samantha are you on?

Samantha Snabes: Oh, yes I'm sorry, Did I cut out?

Pam Plagens: That's okay. No, your video was off for a second. Why don't we start with Samantha.

Samantha Snabes: Oh.

Pam Plagens: And then just one piece of advice if we had to...

Pam Plagens: ...boil it all down.

Samantha Snabes: Yes, and an admiral once me this as an exercise as the first - or second lieutenant, but I think he said, "You know, you could be stupid for a day or stupid forever, so don't be afraid to ask questions." And I think for US manufacturers, as you export globally you have a lot of questions. No one's an expert in everything.

But US Commerce, FDA and a lot of the federal resources, they are SMEs and they're here for you. So don't hesitate to ask them questions. Visit the office and to learn from their expertise.

Pam Plagens: Thank you. Oh Tony what's yours? That's a great piece of advice in just life too.

Anthony Mulligan: Yes I definitely agree with Samantha. And technical my one thing I would - I mean, anybody who's watching this, they're probably already accustomed to solving problems. But my advice is learn how to do social media within your organization. And it's not the same as social media for the US.

Learn the cultural differences in other countries because sometimes just a very small cultural adjustment can make the difference between your media having a strong - your social media having a strong impact overseas or having a negative impact. And you may not even be aware of it. So learn that cultural difference along with your - and be prepared to answer the phone at all hours of the day.

Pam Plagens: Yes and be on conference calls at all hours of the day too, or productive ones. We, you know, we could continue asking you guys for questions for a long time and I know I - because your stories are so fascinating, but just in the interest of time, we're going to we're going to transfer over to our follow-up panel that's going to elaborate on some of these resources.

But stand by, Tony and Samantha, because we - we'll possibly have some questions for you at the end in the general Q&A. So what I'd like to do is introduce our panel of federal resources, federal agency programs and services for early stage manufacturers.

And we're going to start with the SBA, the Small Business Administration, Stephen Sullivan, going to go next to NIST Manufacturing Extension Partnership (MEP), Scott Bryant and then to my colleague with the US Commerical Service, Steven Murray, who's based in our Pittsburgh office. Steve, I'm going to hand the floor to you.

Stephen Sullivan: Thanks, Pam. I'll try to go fast so we have some time for questions because I've seen a lot of great questions coming in. So hello all.

Pam Plagens: Exactly.

Stephen Sullivan: I'm Steve Sullivan with SBA's Office of International Trade. Tony and Samantha both utilized the SBIR program to jumpstart their business. In fact, I believe Tony's in the Hall of Fame for that program.

So I wanted to just kind of give you a sort of the quick overview of that so you can walk away understanding it. The Small Business Innovation Research Program, SBIR and Small Business Technology Transfer STTR are highly

competitive programs that encourage small businesses to engage in federal resource research with potential for commercialization.

So the program has five key goals: meet federal research and development needs; increase private sector commercialization of innovation derived from federal research; stimulate technological innovation; foster and encourage participation and innovation in entrepreneurship by women and socially or economically disadvantaged individuals, and foster technology transfer through cooperative R&D between small businesses and research institutions.

So next slide, please. Wendy, next slide. So in fiscal year 2020 federal agencies on this slide invested more than $4 billion in SBIR and STTR awards. SBIR, STTR budgets are set percentage of these agencies overall external R&D budget. The largest sources of SBIR and SB - and STTR funding are Department of Defense at nearly 2 billion and Department of Health and Human Services at 1.2 billion.

And the main difference between SBIR and STTR is that STTR awards have a requirement for a percentage to be done by nonprofit research institutions. So next slide. So for local assistance, understanding and accessing SBIR, STTR funding, please visit www.sbir.gov/local-assistance. So let's move on from startup to growth, next slide.

So you may be thinking I get is that SBIR is a great resource for early stage manufacturers, but are they ready to participate in international trade? Well, the answer is sometimes surprisingly yes. But more importantly even for those not ready to start up global, they should be thinking about growth opportunities from day one.

The global growth potential of these manufacturers was clearly illustrated recently when we cross-referenced our STEP grant client list with the SBIR graduate list and found more than 100 companies that had used both.

So you've heard a lot of talk about the STEP grant, the State Trade Expansion Program, or Step is s a grant program for states and territories to offer financial assistance to small businesses to help offset costs associated with exporting. STEP helps small businesses that are either new to export or experienced exporters looking to expand into new markets.

So you can see on the slide a variety of eligible uses for STEP funds. Prior to cover. The most common use of STEP funds was to support travel to foreign trade shows and missions. Of late we have seen significant growth in training and e-commerce tools to support exporting. STEP can help companies build their e-store, globalize their Website, develop cybersecurity measures to better protect their online transactions, et cetera.

So please visit www.sba.gov/step for a list of participating states and to find contact information. So next slide please.

So with the - while the STEP grant is the main SBA international trade resource that we want you to be aware of today -- I'd be remiss if I didn't mention some others -- We see three main reasons that small manufacturers don't export more. They don't know where to start which is also applicable to current exporters finding new markets. They believe that the regulatory environment is too complex. Or they find it difficult to finance global sales.

SBA has solutions to each of these. You see some links here. We're actually going to have a Webinar next week on the financing. So between the business intelligence that we offer grants and financing, you're hearing about grants a

little bit today, you'll hear about financing next week and you can hit the links for more information on those programs. So next slide.

I just want to leave you with the final slide to remind you of contact information for some of our various programs. You have the innovation resources on your left and the exporting resources on your right. Down below in the middle is an additional link to connect with SBA District Offices and resource partners. So Small Business Development Centers in particular can be a great counseling resources for starting up and growing globally and there you can find them on that link as well.

So with that, I'm going to turn it over to Scott Bryant to talk about Manufacturing Extension Partnership and some of their services. Scott all you. Got to unmute, Scott.

Scott Bryant: I'm Scott Bryant. I'm out here in Albuquerque, New Mexico. We're enjoying our gorgeous balloon fiesta today and this entire week, yes.

So I want to just cover a little bit about the let's say, the connections between those who are working in the field, literally coming down on to the manufacturing floor and connecting our manufacturers with programs through the partnership. So partnership, including of course NIST, SBA, our SDDCs are regularly used in partners and what we're doing. So next slide please.

So and understand why the federal mechanisms become so important here, you have to kind of know more about New Mexico and its history. But in a state of 2 million people, we have a - actually a long history of manufacturing here but let's say that it's just not enough population density.

So our markets are actually outside of Mexico. We have had to focus on building entrepreneurship and commercialization from that. That's what we do in working with our emerging manufacturers and bringing them along. It is somewhat nurturing, but it is also connecting and networking.

As you can see from the slide, our intention is to reach outside and pull resources into the state. Next slide.

So, you know, we deliver systems on the floor. It's the fifth largest state in the Union with two million people so it's quite a lot of outreach. The pandemic has been very interesting in terms of us being able to use virtual means to help reach out across the rural areas. More than 85% of our manufacturers are family owned businesses. So we have that dynamic as well. When we bring in systems to these kinds of organizations that's also a little bit different. Next slide.

These might be a decent list of things that we bring. We also bring things under growth services that happen to things like STEP. We've used it for a number of our companies because our model is to reach out and send our products outside of our state. Obviously, Intel is not interested in selling that many computers to New Mexico except for a few special ones. And so our markets are outside

. So we've had to help really work with growth services in our companies. And the federal programs and our partnerships have been very, very, very important to especially during the pandemic accessing virtual trade shows, helping people reach out to markets.

And even if the answer was kind of no, that's not a good idea, hey, that was invaluable in terms of time not wasted. So we're a lot about waste. With that, I encourage you. Next slide, please.

We've got a wonderful example of a company. These were Intel employees that left Intel in the downturn and went out and became manufacturers and the journey of this little company which does 3-D manufacturing for pinball machines and found a great niche, a wonderful story.

And if you'd like to reach out to us we do - next slide please. We do have facilities and we're definitely interested in partnerships and reaching out with connections in other states particularly things like aerospace. And happy to talk to you about any of your companies that might need services manufacturing services from New Mexican suppliers. Thank you.

Steven Murray: Hi everyone. my name's Steven Murray and I'm with the Pittsburgh office of the US Commercial Service. And as Pam mentioned briefly before, we are the trade and investment promotion arm of the US Department of Commerce's International Trade Administration. And I'll touch on who we are in a bit more detail shortly.

But quickly, our primary role is to support US companies to develop international markets. But we do this through a global network of professionals located in more than 100 offices throughout the United States and more than 75 international markets typically with the US embassies and US consulates.

We provide direct hands-on and virtual consultative work to help our clients identify potential markets, develop connections to prospective partners and customers, and to provide assistance on export related issues.

What I want to stress is that we absolutely recognize the importance of startups to develop and bring innovation solutions to market and the impact that startups, the impact that startups make both locally and nationally.

We also recognize that startups are typically very internationally minded. The need to grow and to scale carry startups beyond the US market quite quickly, and that we the US Commercial Service are here with information services and resources for startups to plan at every stage for going global.

We want to emphasize that startups cannot begin too early to think about international and that the business does not have to be large to export. We can match our value proposition to each stage of the startup lifecycle from early stage of problem solution fit all the way through to the scaling and maturity stages. So next slide.

So what do we do? Quickly four kind of main areas. We provide counseling, so supporting companies by helping them learn about exporting international issues. Two research to identify potential markets so you understand what markets might be good for you, what are the opportunities and what are the challenges.

Three finding partners and customers. So this came up I think in the chat earlier. So we can help introduce you to reputable partners and customers overseas through our teammates, our colleagues at the embassies and consulates. And then we can provide commercial diplomacy. So in those instances where you need our support to interact with a foreign government, whether it's to advocate on your behalf or a foreign procurement opportunity or if there's a market access issue.

And so those are kind of the broad categories and maybe drilling down a little bit more granularly, some of the things that we can do. So in terms of counseling and market research, you know, we can support your efforts to develop a global strategy through our counseling and for arranging market briefings with our colleagues overseas.

We can help you to connect with buyers through international business missions and through our services such as the Gold Key which I labeled here as kind of the global partner and client acquisition icon. But we can connect you to foreign buyers, foreign customers.

I noticed in the chat that somebody had brought up about how do you find trade shows. So as Pam mentioned earlier she is the leader for our Advanced Manufacturing Team. The Advanced Manufacturing Team is one of a number of industry based teams that we operate with both domestically and internationally to provide very detailed counseling and direction based on industry verticals.

So you could always reach out to one of my colleagues depending on where you are and plug into that, just find out, you know, which trade shows would be a good fit for you. And then I also mentioned in terms of the kind of the commercial diplomacy and advocacy and foreign projects with foreign governments and market access issues. Next slide.

So when we look at our value proposition specific to startups, we want to make sure that that we're hitting what you need based on where you are within your life cycle. So at the early stage, we're not going typically going to talk to you about business development efforts. What we're going to talk to you about is what are the big international concepts, topics, issues that you should be aware of.

You know, it's a cliche to say you don't know what you don't know, but that's really is the case. So what we want to do is to help you understand again, the big concepts related to international so that you don't either back yourself into the corner or find yourself in a position where you're not really sure what to do.

So we're happy to support companies with an understanding of regulatory issues such as export controls which Anthony mentioned earlier when he referenced either ITAR or EAR99. We want to help you understand what foreign regulations might look like for what you're doing, you know as you kind of go through that ideating stage or as you're developing you MVP so you can kind of proactively account for those types of issues.

So once you've kind of graduated past the early stage so maybe you're a Series A company, maybe you're, you know, sitting at that stage of product or I'm sorry, market, solution and market fit what we're there for you then is to help you to start to make those connections, so finding, you know, potential channel partners, finding market information and helping find out which might be good markets for you.

You may be receiving some leads already so we can help you with due diligence. So that company that's reached out to you for - from Korea, we can help give you some information on who they are and so that you can make an informed decision as whether or not - whether or not they are a good fit for you. So we can start looking at some of our in country support, so bringing our colleagues in from overseas for market briefings.

You may be traveling so arranging a meeting for you and just generally supporting you to get you all of that information that you need to put together

your kind of go to market strategy. And so when you hit that later stage, so you're scaling you can really hit the ground running. And at that point in time, this is where we can really kind of bring our real value-add services to bear for you. So that is connecting you to partners, finding those who are those core partners for you in each market.

If you need very high profile, high value contacts so there's a limited set of end users and you don't know how to get to them, we can help you make that approach. And certainly our trade missions and then, you know, through our single company promotion which is where we're sponsoring kind of a branding event for you in country, we can help you to build your sales pipeline.

And you can hit - you can interact with us. It's a continuum. So, you know, whether you're early, mid or late, we're certainly there to address export related issues and provider counseling for you. So if you're beyond that, we're still there to work for you to again help you understand the fundamentals of exporting and serve as a resource for you.

On my previous slide there is a link to help you find your local office. So again there's roughly 100 of our offices throughout the United States and we are there to support you every step of the way. So I appreciate everybody's time and visit trade.gov for a bigger overview of who we are and what we do and a number of other resources aligned to get you exporting effectively and efficiently. So thank you. Back to you Pam.

Pam Plagens: Thanks so much Steven. Wow, we've had a tremendous amount of content today. We had some great questions, I would say a lot of the questions were addressed in the federal resources section. So I'm just going to kind of wrap up a little bit. I know we're past the top of the hour. But I did want to throw

one question out there. You know, there was a question about STEP grants, and I know that's near and dear to the hearts of many exporters.

And the question goes actually possibly to SBA, but - or perhaps to the companies, to comment. But what happens if the (STEP) grant funding in a state has already been exhausted? What other options might there be out there for companies to get to foreign trade shows or get some of the assistance with translations, or - and Steve, I'm hoping that you can - or whoever would like to...

Steve Sullivan: Yes.

Pam Plagens: ...take a stab at that.

Steve Sullivan: Yes. I can certainly comment on that. I think the first thing you want to do when it comes to STEP is make sure you're in contact with your state trade - or (STEP) administrator to find out what's going on with the funds for next year; where things are; see what the opportunities are there. Of course, we still have our traditional SBA export finance programs that can support things from - increasing your production capacity or funds to participate in a foreign trade show or mission, or any kind of marketing efforts.

There are regular SBA-supported loan programs that could support this. So those may be an option. But I would certainly go to your STEP office, see where they are with things. And then certainly tap into the US Export Assistance Center, because they may be aware of some things that you're not.

Pam Plagens: Yes. And that's great advice. I know some states get pretty crafty with other ways to supplement the (STEP) funds. I know with the - one state that they got, you know, money from another agency for - because ultimately we're

here to create jobs and to help strengthen the US economy. And so they found other ways to find some funding. So there's a lot of creativity going on out there.

You know, this makes me, you know, think also that all the partners here can help you find the other partners. So there are a few other questions. But in the interest of time, I'm going to hand it back over to (Wendy). But just to impress upon everybody here that your speakers today, especially your federal resources, they can help connect you. If they're not the person, they know who the person is, and we're all one big ecosystem.

And as well as our featured panelists, as you can see, they started with one thing and learned about something else, and kept being curious and asking questions. Just ask questions. People want to help. We're here to make a difference for you. You know your business; we help you get to the next level. (Wendy), I'm going to hand it back to you. And I have been honored to work with this panel. I've learned a lot myself.

Wendy Peebles: Great. Thank you, Pam. Once again, special thanks to Bailey DeVries, Associate Administrator, Office of Investment and Innovation, US Small Business Administration; our moderator, Pam Plagens, Advanced Manufacturing Team Leader, US Commercial Service, US Department of Commerce. And to our businesses who participated - Anthony Mulligan, CEO, President Hydronalix, and Samantha Snabes, co-founder of Catalyst re:3D.

Both fascinating business stories, and thank you for taking time from your busy schedules, to join us today. As you exit the webinar, please complete the evaluation. Your feedback is important to us, as it assists in planning future webinars. And just let us know any thoughts or any recommendations for

future content. And remember, every Thursday at 2:00 pm Eastern Standard Time, in the month of October, we will feature a topic in celebration of manufacturers around the country to help grow your businesses.

Thank you to all the attendees who joined today. This completes the webinar. Enjoy your afternoon.

Coordinator: Thank you. That does conclude today's call. Thank you for participating. Please disconnect at this time. Speakers, please allow a moment of silence for a post-conference.

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